All-Electric Vehicles - and Missouri’s gasoline taxes

Sadly for some, Americans are driving less and using less gasoline.

Locally, increasing numbers of citizens are riding bicycles or opting for public transportation. Still others are buying scooters, mopeds and electric vehicles. To make matters worse, impending federal fuel efficiency standards are poised to further reduce vehicle fuel consumption. As a result of this perfect storm of disruptive trends, gasoline tax receipts continue to decrease significantly. Nationally, those seeking economy and energy independence are reportedly contributing to the ‘crumbling’ of America’s transportation infrastructure, ‘crippling economic growth, and hindering the development of sustainable, efficient communities’.

Transportation engineers have undertaken to advise the U. S. Government on measures to ‘stabilize’ funding for the Highway Trust Fund, offering guidance to each individual state on how to establish long-term funding mechanisms to counter the progressive infrastructure deterioration. As an example, ASCE called upon its Missouri membership to lobby for enactment of a State constitutional amendment that would have established a state-wide sales tax increment dedicated, primarily, to the financing of highway and bridge construction and maintenance. Heedless, Missouri voters demurred.

Many Missouri dissenters questioned why State legislators had not, since 1996, adjusted motor fuel taxes as part of the State’s effort to keep pace with rising road construction costs. More pointedly, why hadn't the major clients of the State’s highway system (i.e., interstate truckers) been asked to pay more in fuel taxes if Missouri’s crumbling transportation infrastructure had, indeed, become what sales tax advocates had proclaimed as ‘a critical threat to public health and safety?’

Nonplussed by the sales tax rejection, and imagining that all politically feasible highway funding mechanisms have been exhausted, Missouri State legislators now appear flummoxed over how to proceed. Earlier, these legislators had effortlessly enacted legislation which penalized those Missourians who, motivated either by a conservation ethic or concerns for the planet’s future, were contributing ever less to the State’s fuel tax revenues.

For instance, to marginally compensate for the decline in gasoline tax revenues, Missouri’s solons had imposed, not a tax (Missouri’s conservative representatives are united in their opposition to taxation.), but an annual decal fee ($75 + $3.50) on alternatively-fueled vehicles, including all-electric cars.

How great a penalty did the Missouri legislature impose upon the purchasers of electric vehicles? Consider the per gallon surcharge obtained from Missouri’s annual decal fee - or, as a clear-thinking, down-to-earth Show Me Stater might brand it, Missouri’s electric vehicle gas tax.

Based on three year’s experience with our modest electric car, we have logged 8,365 miles, almost totally within our (Columbia) city limits. If, instead, we had used our 44 mpg hybrid to travel this same distance,
we would have actually burned 190 gallons of gasoline. For our situation, then, Missouri’s electric vehicle gas tax calculates as ($78.50 per year times 3 years) or $235. When divided by 190 gallons not consumed, we were taxed $1.24 per virtual gallon.

(According to the Department of Revenue: Missouri’s fuel tax rate is 17 cents a gallon for all motor fuel, including gasoline, diesel, kerosene, gasohol, ethanol blended with gasoline, biodiesel (B100) blended with clear diesel fuel, …)

Examining the costs of operating an electric car is also instructive. An electric vehicle records the number of miles driven per kiloWatt-hour consumed from its rechargeable batteries. This novel gauge indicates that the vehicle routinely delivers 5 miles per kWh. The vehicle’s equivalent fuel cost then calculates at 2 cents per mile based on a local residential electrical use rate of 10 cents per kWh. To this, the State’s equivalent gas tax adds 23,550 cents for 8,365 miles or 2.8 cents per mile. (It might be worth noting that many of the electrons used for charging our electric vehicle’s batteries are derived from photons impinging on our roof-mounted solar panels.)

While continuing to support realistic funding for maintenance of our state and national infrastructure and services, I believe we should call upon our political ‘anti-tax representatives’ to either rescind punitive, anti-conservationist taxation ploys or muster sufficient courage to tax all the State’s gasoline consumers at rates comparable to those demanded of citizens dedicated to conservation.

Less than half the virtual gallon tax demanded of Missouri’s electric vehicle owner, say 50 cents per gallon, should sustain our aging infrastructure for quite a while.

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As a bonus, a driver of an all-electric vehicle might quantify tangible societal benefits from avoided emissions of carbon dioxide. In this example:
Carbon dioxide not produced from gasoline: 190 gallons x 20 lbs. CO₂ / gallon = 3,800 lbs. CO₂ avoided.
For 3,800 lbs. CO₂ x $ 0.019 per lb. CO₂ * = $72 in externalized social costs avoided.